

REMARKS

Claims 1-8 were pending. Claims 1-3 and 6 have been amended for clarity. Claims 9-16 have been added.

The Office Action objects to claim 2 based on informalities. Claim 2 has been amended to correct the informalities as required. Withdrawal of the objection is requested.

The Office Action objects to claim 6 based on a lack of antecedent basis for a term in the claim. Claim 6 has been amended to depend from claim 4, as suggested in the Office Action. Withdrawal of the objection is requested.

Claim 2 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 has been amended to comply with 35 U.S.C. § 112, second paragraph, as required.

Claims 1 and 3 stand rejected under 35 U.S.C. § 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. Pub. 2001/0045645 in the name of Sasaki et al. This rejection respectfully is traversed.

Claim 1 recites a semiconductor device having “a semiconductor substrate including main and back surfaces and a trimming opening penetrating through the semiconductor substrate from the back surface to the main surface.” An insulating film is “formed on the main surface of the semiconductor substrate.” A fuse element is “disposed opposite the main surface of the semiconductor substrate-on the insulating film at a position aligned with and electrically isolated from the trimming opening.”

Sasaki et al. discloses a stack of memory cards. Bump bond connectors are electrically connected through each card. A fuse is provided for selective cutting of the connection through a given card. The fuse is electrically connected to the bump bonds. Sasaki et al. does not teach a fuse element “disposed opposite the main surface of the semiconductor substrate-on the insulating film at a position aligned with and electrically isolated from the trimming opening.”

Sasaki et al. also lacks any suggestion or motivation for modifying its disclosure as would be required to establish *prima facie* obviousness. Instead of teaching a fuse element “electrically isolated from the trimming opening,” Sasaki et al. discloses a fuse element that make up part of a conductive connection between bump bonds on the substrate surfaces.

Claim 1 is patentable over Sasaki et al. Claim 3 depends directly from claim 1 and so is patentable over Sasaki et al. for at least the same reasons.

Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sasaki et al. in view of U.S. Pat. No. 6,638,863 to Wang et al. Reconsideration of this rejection is respectfully requested.

Claims 4 and 5 depend directly and indirectly, respectively, from claim 1. Claim 1 is patentable over Sasaki et al. as advanced above. Consequently, claims 4 and 5 also are patentable over Sasaki et al. for at least the same reasons.

Wang et al. does not cure the deficiencies of Sasaki et al. Wang et al. has been cited as disclosing a semiconductor device with rounded corners that reduce stress. Wang et al. does not combine with Sasaki et al. to provide the missing fuse element “electrically isolated from the trimming opening.” Moreover, the teaching in Sasaki et al. of a fused electrical connection between the substrate surfaces would improperly be

contradicted by any modification that would arrive at a fuse element “electrically isolated from the trimming opening.” Claim 1 is patentable over Sasaki et al. in view of Wang et al. Dependent claims 4 and 5 are patentable over Sasaki et al. in view of Wang et al. for at least the same reasons.

Claims 7 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sasaki et al. in view of U.S. Pat. Application Publication 2002/0025603 in the name of Ondricek et al. Applicant respectfully requests reconsideration of this rejection.

Claims 7 and 8 depend directly from claim 1. Claim 1 is patentable over Sasaki et al. as advanced above. Consequently, dependent claims 7 and 8 are patentable over Sasaki et al. for at least the same reasons.

Ondricek et al. does not cure the deficiencies of Sasaki et al. Ondricek et al. has been cited as providing a marking, bar code, or identification number on a semiconductor device. Ondricek et al. does not combine with Sasaki et al. to provide the missing fuse element “electrically isolated from the trimming opening.” Further, as noted above, the fuse element in Sasaki et al. is part of an electrical connection through the substrate. This aspect of Sasaki et al. improperly would be destroyed by any modification that would be necessary to arrive at a fuse element “electrically isolated from the trimming opening.” Claim 1 is patentable over Sasaki et al. in view of Ondricek et al. Dependent claims 7 and 8 also are patentable over Sasaki et al. in view of Ondricek et al. for at least the same reasons.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sasaki et al. in view of Wang et al., further in view of Ondricek et al. Applicant respectfully requests reconsideration of this rejection.

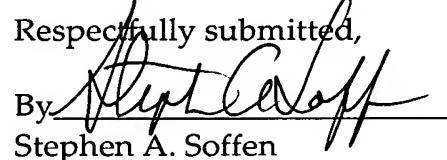
Claim 6 depends indirectly from claim 1. Claim 1 is patentable over Sasaki et al. in view of Wang et al. as advanced above. Ondricek et al. does not cure the deficiencies of Sasaki et al. in view of Wang et al. Ondricek et al. has been cited as disclosing data markings on a semiconductor device. Ondricek et al. does not provide Sasaki et al. and Wang et al. with the missing fuse element "electrically isolated from the trimming opening." Further, as noted above, the teachings of Sasaki et al. improperly would be negated by any modification that would produce the missing fuse element.

Claim 1 is patentable over Sasaki et al. in view of Wang et al., further in view of Ondricek et al. Dependent claim 6 is patentable over Sasaki et al. in view of Wang et al., further in view of Ondricek et al. for at least the same reasons.

New claims 9-16 directed to a semiconductor device have been added.
Examination of claim 9-16 is respectfully requested.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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